

of whose actions are reducible to chemotropic responses.*** The most trivial movements may have the deepest significance for the individual, and, when repeated regularly under certain conditions, they have the value of tropistic reactions. It is well not to forget that the record of a vital act is less easy to couch in critical terms than is the description of an inert form. There are several factors which influence behaviour, such as the nature of the species, the susceptibility of the individual, the place and time of observation. If for any reason, known or unknown, the behaviour is indeterminate, we can do nothing with it and the result of observation is negative. Indeed the interaction of tropisms may so confuse the issue as to render observation nugatory. It is only under the fortunate train of circumstances which permits straight and clear-cut reactions, several times repeated, that the study of behaviour becomes available for synthetic treatment.

NOTES ON NOVA SCOTIAN EUPTERYID LEAF-
HOPPERS INCLUDING DESCRIPTIONS OF
TWO NEW SPECIES.

BY W. L. MCATEE, WASHINGTON, D. C.

Professor W. H. Brittain, Provincial Entomologist of Nova Scotia, sent the writer a small collection of leaf-hoppers of this group, which is herewith reported upon, chiefly for the reason that characterization of two new species is required.

LIST OF SPECIES.

Dikraneura mali Provancher.—Truro, August 26; Digby County.

Empoasca atrolabes Gillette.—Kentville, July 3; Annapolis, July 15.

Empoasca obtusa Walsh.—Kentville, August 14, 16; Annapolis Co., August 8, 11, 28.

Empoasca unicolor Gillette.—Annapolis Co., August 11.

Typhlocyba cymba, new species.—Head and thorax pale yellow flecked with pellucid greenish yellow; elsewhere pale yellowish

***N. E. McIndoo: *Recognition Among Insects*. Smithsonian Misc. Coll., vol. 68, No. 2, Washington, 1917.
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hyaline. Scutellum and a straight-sided band just behind middle of, and confined to, clavi, fuscous. Margin of last ventral segment of female concave on each side before apex. Length 4.5 mm. One specimen, a female, Halifax, N. S., Sept. 1, 1917, in collection of Nova Scotia Department of Agriculture.

Typhlocyba lethierryi Edwards.—Truro, August 17.

Typhlocyba rosæ Linnæus.—Annapolis Co., August 5; Truro, August 26; Halifax, August 5, on elm; September 1, on maple.

Typhlocyba ulmi Linnæus.—Halifax, October 6.

Erythroneura ador, new species.—Venation nearly as in *E. obliqua* Say. Coloration unusual for an *Erythroneura* being pale yellow, except fore wings which vary to golden yellow, pale apically, and tips of tarsi which are dark. Length 4–4.5 mm. Described from four females (one the type) from Halifax, Nova Scotia, August 5, 1917, on elm, and one from same place September 1, 1917. Type and three paratypes in collection of Nova Scotia Department of Agriculture and one paratype in collection of writer.

TWO NEW DIPLOPODS FROM LOUISIANA.

BY RALPH V. CHAMBERLIN, CAMBRIDGE, MASS.

The two new species described below were found represented in a miscellaneous lot of myriapods sent to me for identification by Percy Viosca, Jr., of the Southern Biological Supply Co., of New Orleans. Other diplopods in the lot are *Callipus lactarius* (Say) and *Polydermus serratus* (Say) also from Covington, *Parajulus* sp. and *Spirobolus marginatus* (Say) from New Orleans, and *Julus cærulocinctus* Wood from Rochester, N.Y. The chilopods consist of the following species: *Otocryptops sexspinosus* (Say), *Theatops posticus* (Say), and *Hemiscolopendra punctiventris* (Newport) from Covington, *Arenophilus bipuncticeps* (Wood) from New Orleans, *Neolithobius mordax* (Koch) from Lake Charles, and *Scolopendra viridis* Say from Florida.

Ethojulus amphelictus, gen. et sp. nov.

This form is separated generically from *Parajulus* because of its different type of structure in the male gonopods. The